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# FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEY and WATER SUPPLY FORECASTS for ARIZONA

UNITED STATES DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE

Data included in this report were obtained by the agency named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

MAR. 1, 1958

#### UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1300 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

#### PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	COOPERATING WITH	LOCATION
RIVER BASINS			
Colorado, Rio Grande	MONTHLY (FEB, -MAY),	Colo. Exp. Station	FT. Collins. Colo.
COLUMBIA Includes Alaska	MONTHLY (JANMAY)		BOISE, IOAHO
UPPER MISSOURI	MONTHLY (FEBMAY)	Mont.Agr.Exp.Station	BOZEMAN, MONTANA
WEST-WIOE	SEMI-ANNUALLY "" (OCT. 1 ANO APR.1)	COOPERATORS	Portlano, Oregon
STATES			
ARIZONA	SEMI-MONTHLY(Jan, 15-Apr.1)	SALT R. VALLEY WATER	PHOENIX, ARIZONA
NE VA OA	MONTHLY (FEBAPR.)	NEVAOA STATE ENGINEER	RENO. NEVAOA
OREGON	Monthly (JanMay)	ORE, AGR, EXP, STATION	PORTLANO, OREGON
UTAH	MONTHLY (JANMAY)	UTAH STATE ENGINEERUTAH AGR.EXP.STATION	SALT LAKE CITY, UTAH
WASHINGTON	MONTHLY (FEBMAY)	WASH. STATE DEPT. OF CONSERVATION ANO DEVELOPMENT	SPOKANE, WASHINGTON
WYOMING	Monthly (FebJune)	WYOMING STATE ENGINEER	CASPER, WYOMING
Copies of the	various reports may be s	ecured from: Head, Water Supp. Soil Conservation	ly Forecasting Section  Service

PUBLISHED BY OTHER AGENCIES

209 S.W. 5th Avenue, Portland 4, Oregon

BRITISH COLUMBIA MONTHLY		TER RIGHTS BR., RLIAMENT BLDGS.	
CALIFORNIAMonthly	GALIFORNIA [		TER RESOURCES.

for

### ARIZONA

(Salt, Verde, Gila and part of Lower Colorado River Basin)

Issued

March 4, 1958

Report Prepared

by

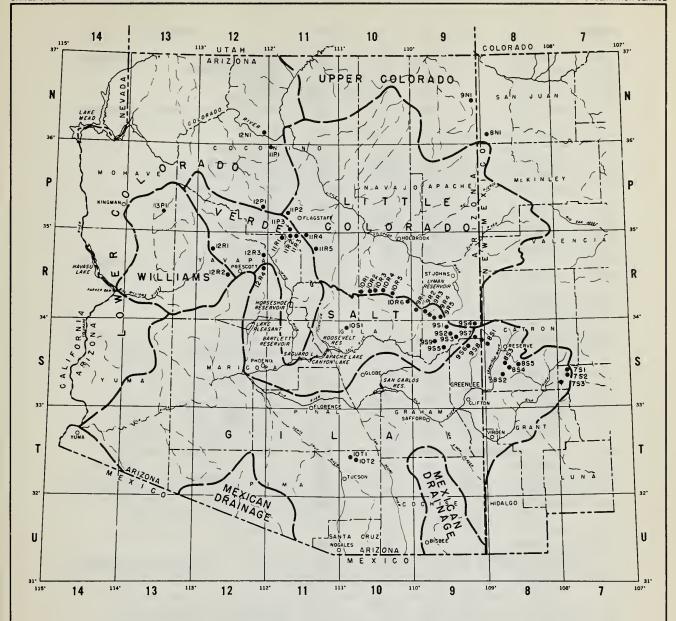
George Watt, Snow Survey Supervisor Soil Conservation Service 807 West Washington Phoenix, Arizona

Issued by

Robert V. Boyle
State Conservationist
Soil Conservation Service

Victor I. Corbell
President
Salt River Valley Water Users! Ass!n.

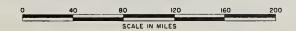




### LEGEND DRAINAGE BASIN BOUNDARY SNOW COURSE

### ARIZONA COOPERATIVE SNOW SURVEYS

SNOW COURSES AND DRAINAGE BASINS
JANUARY 1956



#### INDEX TO SNOW COURSES

NUMBER	* NAME	SEC	TWP	RGE** EI	LEVATION	RIVER BASIN	
11-P-3	Antelope Park	29	19N	8E	7300	Verde /	Discontinued
9-5-1	Baldy (p)	28	7N	27E	9000	Salt-Little Colorado	D. 1300111111000
10-T -1	Bear Wallow	6	125	16E	8100	Gila	
9-5-6	Beaver Head	13	4N	30E	8000	Salt-Frisco	
9-S-3	Big Lake Knoll	2	5N	28E	8800	Salt-Frisco-Little Colorado	Discontinued
7-3-3	big take knoii	2	314	201	0000	Sait-Frisco-Eirrie Colordao	Discontinued
7-S -3	Black Canyon	8	135	11W***	6790	Gila	
12-N-1	Bright Angel	34	33N	3E	8400	Lower Colorado	
12-R -1	Camp Wood	3	16N	6W	5700	Williams-Verde	
10-R -3	Canyon Creek (s)	18	11N	15E	7500	Salt	
11-R -2	Casner Park (s)	19	18N	8E	6950	Verde	
10 D 1	Charles de CA	27	2251	25	7100	VI-	
12-P-1	Chalender (s)		22N	3E		Verde	
8-5-3	Corner Mountain Corn Creek (p) Lat	7	105	17W***	8850	Gila-Frisco	
9-5-9						Salt	
9-5-7	Coronado Trail	26	5N	30E	8000	Salt-Frisco	
10-R -2	Elk	31	11N	14E	7600	Salt-Little Colorado	Discontinued
10-R -6	Forest Dale (s)	2	9N	21E	6000	Salt-Little Colorado	
11-P-2	Fort Valley	22	22N	6E	7350	Verde /	
9-R -5	Ft. Apache	18	7N	27E	9160	Salt-Little Colorado	
8-\$ -1	Frisco Divide	31	65	20W***	8000	Frisco-Gila	
12-R-4	Gaddes Canyon	11	15N	2E	7600	Verde #	
10-R-5	Gentry	36	11N	15E	7600	Salt-Little Colorado	
10 11 0	<b>G</b> 0,	••			, 500	Sun Emile Colorado	
11-P-1	Grand Canyon	21	30N	4E	7500	Lower Colorado	
11-R -5	Happy Jack	30	17N	9E	7630	Verde	
10-R -4	Heber (p)	28	11N	15E	7600	Salt-Little Colorado	
7-S-2	Inman	6	115	10W***	<i>7</i> 800	Gila	
12-R -2	Iron Springs	22	14N	3W	6200	Williams-Verde	
9 <b>-</b> S-2	Maverick Fork (s)(p	113	6N	27E	9050	Salt-Little Colorado	
9-R-4	McKay Peak	13	7N	24E	8250	Salt	Not read
9-R-2	McNary (s)	14	8N	23E	7200	Salt-Little Colorado	1401 1600
9-R-1	Milk Ranch	28	8N	23E	7000	Salt	
		3	15N	25E 2E	7100		
12 <b>-</b> R -3	Mingus Mountain	3	1314	20	7100	Verde #	
8-5-2	Mogollon	2	115	19W***	7000	Frisco-Gila	
11-R-4	Mormon Lake	13	18N	8E	7350	Verde #	
11-R-3	Mormon Mountain(s	)14	18N	8E	7500	Verde	
11-R-1	Munds Park (s)	7	18N	7E	6500	Verde	
8-5-4	N-Bar Lake	16	105	17W***	8600	Gila	
8 <b>-</b> S -5	Negrito	6	105	16W***	8200	Gila	
	Nutrioso	23		30E	8500	Salt-Frisco-Little Colorado	
9-5-5				verick, Ariz		Salt	
		15		6W****		Little Colorado #	Nist samil
9-N-1	Roof Butte		8N		8500		Not read
10-T -2	Rose Canyon	15	125	16E	7300	Gila	
9-5 -8	State Line	6	65	21W***	8000	Gila-Frisco	
7 <b>-</b> S -1	Taylor Creek	20	105	10W***	<b>7</b> 850	Gila	
9-R -3	Trout Creek	5	7N	24E	6400	Salt	Not read
8-N-1	Washington Pass La	t. 36005	N. Long	.108°50'W.	§ 8600	Little Colorado #	Not read
13-P -1	Willow Ranch	16	21 N	11W	5000	Williams	
10-R -1	Woods Canyon	15	11N	13E	7640	Salt-Little Colorado	Discontinued
10-K-1	Workman Creek	33	6N	14E	6900	Salt	Discontinued
10.3-1	TOTALIGH CICCA	00	014	, ,,,,	0,00	- Sur	

<sup>\*</sup> Number indicates location of course within coordinate rectangle, thus 9-N 1 is Course \*1 in coordinate rectangle 9-N.

<sup>\*\*</sup> All in Gila and Salt River Base and Meridian except where otherwise indicated.

<sup>\*\*\*</sup> New Mexico Principal Meridian.

<sup>\*\*\*\*</sup> Navajo Base.

On adjacent drainage.

<sup>(</sup>s) Soil Moisture Station installed on or in vicinity of course.

<sup>§</sup> Unsurveyed.

<sup>(</sup>p) Storage gage installed on or in vicinity of course

#### ARIZONA WATER SUPPLY OUTLOOK

March 1, 1958

*	* * * * * * * * * * * * * * * * * * * *	×
*	Above normal February precipitation has	*
*	improved the water supply outlook for	*
*	Arizona, but it is still below normal.	×
*	Reservoir storage is 62 per cent of	*
*	average and forecasted runoff for the	*
*	March through May period is 36 per cent	℀
		*
عد	****	16

- SNOW COVER: Most of the February precipitation occurred as rain and left little snow below the 8,000 foot elevation. On the snow courses above 9,000 feet in the White Mountains the snow pack was about average. Here the snow averaged  $2\frac{1}{2}$  to 3 feet deep and contained 8 inches of water. From 12 to 14 inches of this was new snow that fell in the late February storm. The Verde River Watershed had especially low snow pack, being only 10 per cent of average.
- SOIL MOISTURE: Soil moisture throughout the mountain forest area was good. Most stations showed an increase of soil moisture over the February 15 readings and are at or near field capacity.
- RESERVOIRED WATER: The February precipitation has added 160,000 agre feet to the water storage in the eight major reservoirs in Arizona, excluding those on the Colorado River. This brings the stored water to 66 per cent of average and 18 per cent of capacity. This is the same as it was at this time last year.
- STREAM FLOW: Stream flow prospects have generally improved over last month, especially in the Salt River. The forecast for the March through May period for the Salt, Verde and Tonto Rivers is 195,000 acre feet, or about 39 per cent of average. This would bring the January through May runoff to 53 per cent of average and 55 per cent of last year. The stream flow for the Gila and San Francisco Rivers is forecasted to be 32 per cent of average. Last year's flow was 24 per cent of average for the same period.

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### STREAM FLOW FORECASTS - MARCH 1, 1958

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts.

		SEASONAL STREAM FLOW IN THOUSANDS OF ACRE FEET FORECAST PERIOD MARCH - MAY, INCLUSIVE						
BASIN, STREAM AND STATION	Forecast Runoff 1958	Percent 15-Year Average	Meas 1957	ured Ru 1956	noff 1955	1938 <b>–5</b> 2 Average		
Salt River at Intake	120.0	41	113.5	105.4	36.5	290•4		
Tonto River above Roosevelt	15.0	1111	11,4	4.5	2.6	34.0 1/		
Verde River above Horseshoe	60.0	33	58.5	31.1	41.5	179.8		
Gila River at Virden	15.0	32	8.6	6,0	6.7	46.5		
Frisco River at Clifton	13.0	36	12,4	6.7	6.6	42.2		
Little Colorado River above Lyman Dam 2/	2.7	31		2,5	0,6	8.6 1/		

<sup>1/</sup> Average is for less than 15 years of record in the 1938-52 period.

<sup>2/</sup> Forecast period for Little Colorado River above Lyman Dam is for March - June inclusive.

### STATUS OF ARIZONA RESERVOIR STORAGE - MARCH 1, 1958

			USABI	E STORAGE	- 1000 ACRI	E FEET
BASIN and/or STREAM	RESERVOIR	USABLE CAPACITY 1000s AF	1958	1957	1956	15-Year Average 1938-52
			GILA DRAIN	IAGE		
Agua Fria	Lake Pleasant	163.8	12.6	24.4	27.8	24.3 1/
Gila	San Carlos	1,205.0	63.6	10.3	76.0	183.3
Verde	Bartlett	180.0	139.4	154.8	85.2	57.3 1/
Verde	Horseshoe	143.0	12.8	55.4	2.2	18.9 1/
Salt	Roosevelt	1,381.6	56.0	163.1	236.2	427.8
Salt	Apache	245.1	232.2	109.0	242.5	188.1
Salt	Canyon	<b>57</b> ₺8	52.6	55.8	54.6	37.6
Salt	Saguaro	69,•8	63.6	60.0	65.4	28.5
		IOWER C	OLORADO DR	ATNACE		
Colorado	Lake Havasu	688.0	582.2	606.8	590.6	568.1 1/
			-			
Colorado	Lake Mohave	1,810.0	1,743.1	1,688.0	1,705.0	1,107.0 1
Colorado	Lake Mead	27,207.0	19,712.0	11,695.0	11,029.0	18,855.0
Little Colorado	Lyman	30.6	8.5	0.1	8.3	8.4 1/
Little Colorado	Show Low Lake	5-1	0.2	0.6	0,3	May No. 100

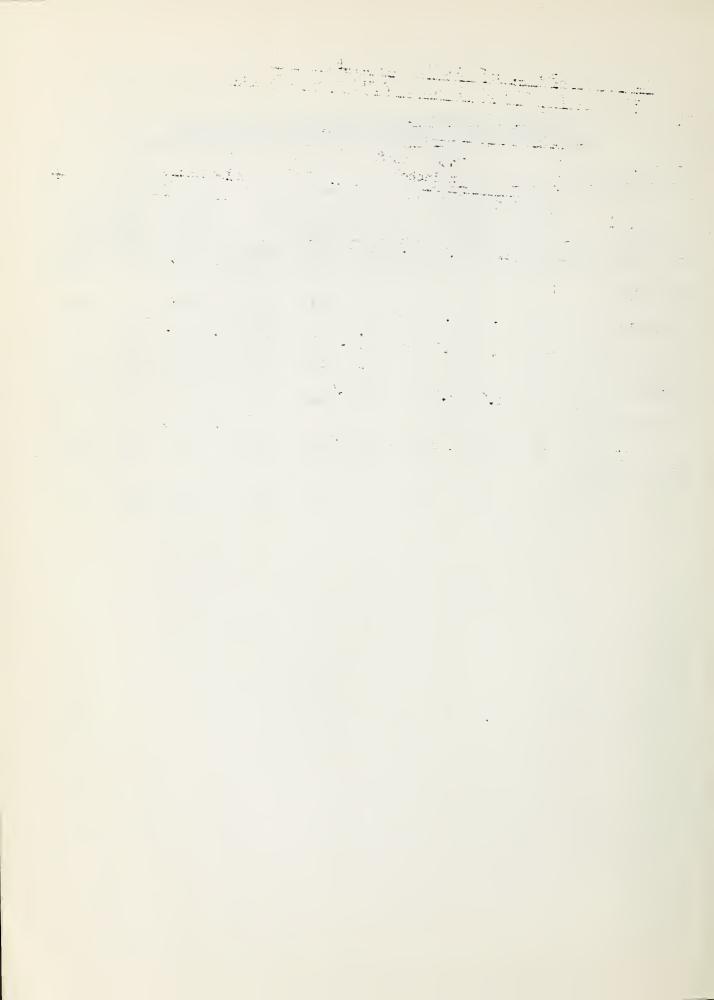
<sup>1/</sup> Average is for less than 15 years of record in the 1938-52 period.

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### SUMMARY OF MARCH 1, 1958 ARIZONA SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHED

	No. of Courses in	Snow Depth 1958	Snow Water Content in Inches				Snow Density 1958	Conte	Water ent in ent of
WATERSHED	Average	Inches	1958	1957	1956	Normal	Percent	1957	Normal
				<del>~ _ , _ , _ , _ , _ , _ , _ , _ , _ , _ </del>					
Gila River	8	4	1.2	0.0	2.4	2.0	30		60
Salt River	12	11	2.6	1.3	4.2	3.3	214	200	79
Verde River	10	1	0.3	0.4	1.5	3.0	30	75	10
Williams River	2	0	0.0	0.0	0.0	1,-4		den den gep	
Lower Colorado River	14	9	1.9	3.4	2.5	4.9	21	56	39
Little Colorado River		8	1.8	1.1	3.6	3,•6	23	164	50



				SNOW	COVER	ME A SIDE	DMRNTS		
				1958	00 ,1112	LIADOIL		T RECORD	
DRAINAGE BASIN			Date		Nater	Water		nt (In.)	Prior
and			of		Content	***************************************		1938-52	Yrs. of
SNCW COURSE	No.	Elev.	Survey	(In.)	(In.)	1957	1956	Average	Record
GILA RIVER									
Nutrioso ,	984	8500	2/28	5	0.7	0.0	2.4	2.2	20
Bear Wallow 3/	1021	8100	Report	Delayed		0.0	3.6	1.9 2/	10
Frisco Divide	8S1	8000	2/28	6	2.4	0.0	2.8	2,0	20
State Line	988	8000	2/28	4	1.4	0.0	3.7	2.8	20
Coronado Trail	957	8000	2/27	8	1.0	0.0	2.9	3.5	20
Beaver Head	986	8000	2/28	6	1.6	0.0	3.1	3.2 2/	19
Taylor Creek	7S1	7850	2/28	1	0.5	0.0	0.0	0.5 2/	15
Inman 3/	7S2	7800	2/28	1	0.5	0.0	0.0	3.2 2/ 0.5 2/ 0.7 2/ 0.4 2/	11
Rose Canyon 3	10T2	7300		Delayed		0.0	1.2	0.4 2/	10
Mogollon	8s2 7s3	7000 6790	2/28	2	1.6	0.0	4.6		5 5
Black Canyon 3/	ردا	0150	neport	Delayed		0.0	0.0	100 mar (mg	כ
SALT RIVER									
Ft. Apache 1	9R5	9160	2/28	29	6.8	5.0	8.7		8
Baldy 1/	9Sl	9125	2/28	30	7.7	3.6	6.1		8
Maverick Fork	9S2	9020	2/28	36	9.6	7.4	9.7		7
Nutrioso	954	8500	2/28	5	0.7	0.0	2.4	2.2	20
Coronado Trail	957	0003	2/27	8	1.0	0,0	2.9	3.5 2/	20
Beaver Head	986	8000	2/28	6	1.6	0.0	3.1	3.2 =	19
Pacheta Gentry	985 10R5	7800 7600	2/28 2/27	9 4	2.0	0,0	4.9		7
Heber	10R4	7600	2/27	4	0.8	0.0 T	3.3 3.1	000 000 A 70	7
Canyon Creek #2 3	1CR7	7500	2/27	3 3	0.6				Ó
McNary	9Fi2	7200	2/28	T	T	0.0	3.6	$\frac{2.7}{0.9} \frac{2}{2}$	19
Milk Ranch	9Rl	7000	2/28	T	T	0.0	1.9	$\frac{2.7}{0.9} \frac{2}{2}$	17
Workman Creek 3/	1051	6900	Report	Delayed		0.0	3.4		6
Forest Dale	10R6	6430	2/28	0	0.0	0.0	0.6	1.2 2/	19
VERDE RIVER									
Happy Jack	11R5	7630	2/28	0	0.0	0.0	3.7	04 00 04	5
Gaddes Canyon 3	12R4	7600	2/28	5	1.9	2.6	3.1	***	5 4
Mormon Mountain	11R3	7500	2/26	6	1.6	3.7	4.6	0/	8
Mormon Lake 1/	11R4	7350	2/26	5	0.8	T	2.7	6.4 2	11
Fort Valley 1	11P2	7350	2/28	1	0.3	0.0	1:0	2.9 2/	11
Mingus Mountain	12R3	7100	2/28	05651TTT	${f T}$	0.0	0.0	6.4 <u>2/</u> 2.9 <u>2/</u> 1.9 <u>2/</u> 3.5 <u>2/</u>	11
Chalender	12P1	71.00	2/28	T	T	0.0	0.6	3.5 =	11
Casner Park	11R2	6930	2/26	T	T	T	2.1		7
Munds Park	11R1	6500	2/26	T	T	0.0	0.0	2 2/	7 12
Iron Springs 1	12R2	6200	2/25 2/28	0	0.0	0.0	0.0	1.8 2/	12
Camp Wood	12R1	5700	2/20	J	0.0	0.0	0.0	тэт _	1.4

<sup>1/</sup> On adjacent drainage

<sup>2/ 1938-52</sup> average is estimated from existing records within period

<sup>3/</sup> Not included in watershed averages

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### ARIZONA SNOW SURVEYS - ABOUT MARCH 1, 1958

				CATCA	r gorne	A CITE	C D GCD ATCO		
			SNOW COVER MEASUREMENTS						
DDA TNIA CED DA CEDI			70 1	1958	** .	7.7.1		T RECORD	D
DRAINAGE BASIN and			Date of	Snow Depth	Water Content		Conte	nt (In.) 1938-52	Prior Yrs. of
SNOW COURSE	No.	Elev-	Survey		(In.)	1957	1956	Average	Record
DITOW COULDED	1100	22075	Dui vey	(-7110)	(1110)	1//	1//0	Avorage	100010
WILLIAMS RIVER									
Iron Springs	12R2	6200	2/25	0	0.0	0.0	0.0	1.8 2/	12
Camp Wood 1/	12R1	5700	2/28	ŏ	0.0	0.0	0.0	1.8 2 1.1 2 0.3 2	12
Willow Ranch 3/	13P1	5000	Report	Delaye	d	~~~	0.0	0.3 2/	8
LOWER COLORADO RI	VER								
Bright Angel	12N1	8400	2/28	32	6.7	13.4	7.1	10.6 2/ 2.7 2/ 2.9 2/ 3.5	11
Grand Canyon	11P1	7500	2/28	2	0.5	0.0	1.2	$2.7\frac{2}{9}$	11
Fort Valley,	11P2	7350	2/28	1 T	0.3	0.0	1.0	$2.9\frac{2}{3}$	11 11 11
Chalender 1/	12P1	7100	2/28	T	T	0.0	0.6	3.5 =	11
LITTLE COLORADO R	IVER								
Ft. Apache	9R5	9160	2/28	29	6.8	5.0	8.7	that are the	8
Baldy	951	9125	2/28	30	7.7	3.6	6.1		8
Nutrioso	954	8500	2/28	4	0.6	0.0	2.4	2.2	20
Happy Jack 1	11R5	7630	2/28	0 4	0.0	0.0	3.7		5 6 7 0 8 11
Gentry Heber	10R5 ,10R4	7600 7600	2/27 2/27	4	0.8	0.0	3.3 3.1		7
Canyon Creek #2 3		7500	2/27	2	0.7 0.6		<b>&gt;•</b> ±		,
Mormon Mountain	11R3	7500	2/26	6	1.6	3.7	4.6	***	8
Mormon Lake	11R4	7350	2/26	3 3 5 1 T	0.8	T	2.7	6.4 2/	11
Fort Valley	11P2	7350	2/28	1	0.3	0.0	1.0	$\frac{2.9}{2.7} \frac{2}{2}$	11
McNary	9R2	7200	2/28		T	0.0	3.6	6.4 <u>2</u> / 2.9 <u>2</u> / 2.7 <u>2</u> / 1.2 <u>2</u> /	19
Forest Dale	10R6	6430	2/28	0	0.0	0.0	0.6	1.2 2/	19

<sup>1/</sup>On adjacent drainage

<sup>2/1938-52</sup> average is estimated from existing records within period

<sup>3/</sup> Not included in watershed averages

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### ARIZONA SNOW SURVEYS - DELAYED REPORTS RECEIVED SINCE LAST BULLETIN (February 15, 1958)

DRAINAGE BASIN			SNO	SNOW COVER MEASUREMENTS					
and snow govern	NT-	177	Date of	Snow Depth	Water Content				
SNOW COURSE	No.	Elev.	Survey	(Inches)	(Inches)				
GILA RIVER									
Priffiguris constant to be delicated and a supplementary of			Corrected	Report					
Beaver Head	986	8000	2/13/58	2	1.0				
SALT RIVER									
Workman Creek	1081	6900	2/17/58	0	0.0				
			•						
VERDE RIVER									
LOWER COLORADO RIV	ER								
LITTLE COLCRADO RI	VER								
Fort Valley	11P2	7350	2/14/58	4	0.9				
		1,2,2	-// > -	- <del>-</del> -					

\* 4 1 1 2

### LIST OF SNOW SURVEYORS

SNOW COURSE	SURVEYOR
Baldy	SCS and SRVWUA Forest Service - A., L. Foster N. A. Josh
Black Canyon Bright Angel	Wayne Black National Park Service
Camp Wood	Mrs. C. C. Merritt
Canyon Creek	SCS and SRVWUA
Casner Park	SCS and SRVWUA
Chalender	Forest Service - M. C. Oleson & F. E. Page
Coronado Trail	Forest Service - Bill Brainard
Forest Dale	Fort Apache Reservation - Valverde & Endfield
Frisco Divide	Forest Service - Frank Carroll
Ft. Apache	SCS and SRVWUA
Fort Valley	Rocky Mt. Forest & Range Experiment Station
Gaddes Canyon	SCS - Richard Enz
Gentry	SCS and SRVWUA National Park Service - J. Lynch
Grand Canyon	Emil Ryberg
Heber	SCS and SRWUA
Inman	C. H. McCauley
Iron Springs	Ernest Saxby
McNary	Fort Apache Reservation - Valverde & Endfield
Maverick Fork	SCS and SRVWUA
Milk Ranch	Fort Apache Reservation - Valverde & Endfield
Mingus Mountain	SCS - Richard Enz
Mogollon	J. R. Wray
Mormon Lake	SCS and SRVWJA
Mormon Mountain	SCS and SRVWUA
Munds Park	SCS and SRVWUA
Nutrioso	Forest Service - Bill Brainard
Pacheta	Foch Phillips
Rose Canyon	Forest Service - A. L. Foster
State Line	Forest Service - Frank Carroll
Taylor Creek	C. H. McCauley Tiny Miller
Workman Creek	Rocky Mt. Forest & Range Experiment Station
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and the second of the second of the second of v + · · · · . . . . . . . . . . . . . . . Expensely 1. S. S. and the second of the second o . . . . . . the second second ... F. C. • 1 . ·=. . . . . . . . . . . . . . . . . . \* \* \* \* \*\*\* • • • • \* \* \* 4 3 · · •

The following organizations cooperate in the Arizona snow survey work:

#### FEDERAL

Department of Agriculture

Soil Conservation Service

#### Forest Service

Apache Forest
Coconino Forest
Coronado Forest
Gila Forest
Kaibab Forest
Prescott Forest

Rocky Mountain Forest and Range Experiment Station

Department of Commerce

Weather Bureau
Arizona Section

Department of Interior

Bureau of Reclamation Region III

Geological Survey
Arizona District

<u>Bureau of Indian Affairs</u>
Fort Apache Reservation

National Park Service
Grand Canyon National Park

Gila Water Commissioner
Safford, Arizona

### IRRIGATION PROJECTS

Salt River Valley Water Users' Association Phoenix, Arizona

San Carlos Irrigation and Drainage District Coolidge, Arizona

### PRIVATE

Southwest Lumber Mills, Inc. McNary, Arizona

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

## Federal - State - Private COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"